

SEQUENCE LISTING

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LEE, DANIEL H.S.
LI, WEIWEI

<120> Nogo-Receptor Antagonists for the Treatment of Conditions Involving
Amyloid Plaques

<130> 2159.0470001

<140> US 10/553,669

<141> 2004-04-16

<150> PCT/US04/11728

<151> 2004-04-16

<150> US 60/463,424

<151> 2003-04-16

<160> 22

<170> PatentIn Ver. 3.2

<210> 1

<211> 344

<212> PRT

<213> Homo sapiens

<400> 1

Met Lys Arg Ala Ser Ala Gly Gly Ser Arg Leu Leu Ala Trp Val Leu
1 5 10 15

Trp Leu Gln Ala Trp Gln Val Ala Ala Pro Cys Pro Gly Ala Cys Val
20 25 30

Cys Tyr Asn Glu Pro Lys Val Thr Thr Ser Cys Pro Gln Gln Gly Leu
35 40 45

Gln Ala Val Pro Val Gly Ile Pro Ala Ala Ser Gln Arg Ile Phe Leu
50 55 60

His Gly Asn Arg Ile Ser His Val Pro Ala Ala Ser Phe Arg Ala Cys
65 70 75 80

Arg Asn Leu Thr Ile Leu Trp Leu His Ser Asn Val Leu Ala Arg Ile
85 90 95

Asp Ala Ala Ala Phe Thr Gly Leu Ala Leu Leu Glu Gln Leu Asp Leu
100 105 110

Ser Asp Asn Ala Gln Leu Arg Ser Val Asp Pro Ala Thr Phe His Gly
115 120 125

Leu Gly Arg Leu His Thr Leu His Leu Asp Arg Cys Gly Leu Gln Glu
130 135 140

Leu Gly Pro Gly Leu Phe Arg Gly Leu Ala Ala Leu Gln Tyr Leu Tyr
145 150 155 160

Leu Gln Asp Asn Ala Leu Gln Ala Leu Pro Asp Asp Thr Phe Arg Asp

| 165 | | | | | | | | | | 170 | | | | | 175 | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|--|--|
| Leu | Gly | Asn | Leu | Thr | His | Leu | Phe | Leu | His | Gly | Asn | Arg | Ile | Ser | Ser | | | | |
| | | | 180 | | | | | 185 | | | | | 190 | | | | | | |
| Val | Pro | Glu | Arg | Ala | Phe | Arg | Gly | Leu | His | Ser | Leu | Asp | Arg | Leu | Leu | | | | |
| | | 195 | | | | | 200 | | | | | 205 | | | | | | | |
| Leu | His | Gln | Asn | Arg | Val | Ala | His | Val | His | Pro | His | Ala | Phe | Arg | Asp | | | | |
| | 210 | | | | | 215 | | | | 220 | | | | | | | | | |
| Leu | Gly | Arg | Leu | Met | Thr | Leu | Tyr | Leu | Phe | Ala | Asn | Asn | Leu | Ser | Ala | | | | |
| 225 | | | | | 230 | | | | 235 | | | | | | 240 | | | | |
| Leu | Pro | Thr | Glu | Ala | Leu | Ala | Pro | Leu | Arg | Ala | Leu | Gln | Tyr | Leu | Arg | | | | |
| | | | 245 | | | | | 250 | | | | | | 255 | | | | | |
| Leu | Asn | Asp | Asn | Pro | Trp | Val | Cys | Asp | Cys | Arg | Ala | Arg | Pro | Leu | Trp | | | | |
| | | 260 | | | | | | 265 | | | | | 270 | | | | | | |
| Ala | Trp | Leu | Gln | Lys | Phe | Arg | Gly | Ser | Ser | Ser | Glu | Val | Pro | Cys | Ser | | | | |
| | 275 | | | | | | 280 | | | | | 285 | | | | | | | |
| Leu | Pro | Gln | Arg | Leu | Ala | Gly | Arg | Asp | Leu | Lys | Arg | Leu | Ala | Ala | Asn | | | | |
| | 290 | | | | | 295 | | | | | 300 | | | | | | | | |
| Asp | Leu | Gln | Gly | Cys | Ala | Val | Ala | Thr | Gly | Pro | Tyr | His | Pro | Ile | Trp | | | | |
| 305 | | | | | 310 | | | | | 315 | | | | | 320 | | | | |
| Thr | Gly | Arg | Ala | Thr | Asp | Glu | Glu | Pro | Leu | Gly | Leu | Pro | Lys | Cys | Cys | | | | |
| | | | | 325 | | | | | 330 | | | | | 335 | | | | | |
| Gln | Pro | Asp | Ala | Ala | Asp | Lys | Ala | | | | | | | | | | | | |
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<210> 2

<211> 344

<212> PRT

<213> Rattus norvegicus

<400> 2

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| Met | Lys | Arg | Ala | Ser | Ser | Gly | Gly | Ser | Arg | Leu | Pro | Thr | Trp | Val | Leu | |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | | |
| Trp | Leu | Gln | Ala | Trp | Arg | Val | Ala | Thr | Pro | Cys | Pro | Gly | Ala | Cys | Val | |
| | | | 20 | | | | | 25 | | | | | 30 | | | |
| Cys | Tyr | Asn | Glu | Pro | Lys | Val | Thr | Thr | Ser | Arg | Pro | Gln | Gln | Gly | Leu | |
| | | 35 | | | | | 40 | | | | | 45 | | | | |
| Gln | Ala | Val | Pro | Ala | Gly | Ile | Pro | Ala | Ser | Ser | Gln | Arg | Ile | Phe | Leu | |
| | 50 | | | | | 55 | | | | | 60 | | | | | |
| His | Gly | Asn | Arg | Ile | Ser | Tyr | Val | Pro | Ala | Ala | Ser | Phe | Gln | Ser | Cys | |
| 65 | | | | | 70 | | | | 75 | | | | | | 80 | |
| Arg | Asn | Leu | Thr | Ile | Leu | Trp | Leu | His | Ser | Asn | Ala | Leu | Ala | Gly | Ile | |
| | | | | 85 | | | | | 90 | | | | | 95 | | |
| Asp | Ala | Ala | Ala | Phe | Thr | Gly | Leu | Thr | Leu | Leu | Glu | Gln | Leu | Asp | Leu | |

| 100 | | | | | 105 | | | | | 110 | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Ser | Asp | Asn | Ala | Gln | Leu | Arg | Val | Val | Asp | Pro | Thr | Thr | Phe | Arg | Gly |
| | | 115 | | | | | 120 | | | | | 125 | | | |
| Leu | Gly | His | Leu | His | Thr | Leu | His | Leu | Asp | Arg | Cys | Gly | Leu | Gln | Glu |
| | 130 | | | | | 135 | | | | | 140 | | | | |
| Leu | Gly | Pro | Gly | Leu | Phe | Arg | Gly | Leu | Ala | Ala | Leu | Gln | Tyr | Leu | Tyr |
| | 145 | | | | | 150 | | | | | 155 | | | | 160 |
| Leu | Gln | Asp | Asn | Asn | Leu | Gln | Ala | Leu | Pro | Asp | Asn | Thr | Phe | Arg | Asp |
| | | | 165 | | | | | | 170 | | | | | 175 | |
| Leu | Gly | Asn | Leu | Thr | His | Leu | Phe | Leu | His | Gly | Asn | Arg | Ile | Pro | Ser |
| | | 180 | | | | | | 185 | | | | | 190 | | |
| Val | Pro | Glu | His | Ala | Phe | Arg | Gly | Leu | His | Ser | Leu | Asp | Arg | Leu | Leu |
| | | 195 | | | | | 200 | | | | | 205 | | | |
| Leu | His | Gln | Asn | His | Val | Ala | Arg | Val | His | Pro | His | Ala | Phe | Arg | Asp |
| | 210 | | | | | 215 | | | | | 220 | | | | |
| Leu | Gly | Arg | Leu | Met | Thr | Leu | Tyr | Leu | Phe | Ala | Asn | Asn | Leu | Ser | Met |
| | 225 | | | | | 230 | | | | | 235 | | | | 240 |
| Leu | Pro | Ala | Glu | Val | Leu | Val | Pro | Leu | Arg | Ser | Leu | Gln | Tyr | Leu | Arg |
| | | | 245 | | | | | | 250 | | | | | 255 | |
| Leu | Asn | Asp | Asn | Pro | Trp | Val | Cys | Asp | Cys | Arg | Ala | Arg | Pro | Leu | Trp |
| | | | 260 | | | | | 265 | | | | | 270 | | |
| Ala | Trp | Leu | Gln | Lys | Phe | Arg | Gly | Ser | Ser | Ser | Gly | Val | Pro | Ser | Asn |
| | | 275 | | | | | 280 | | | | | 285 | | | |
| Leu | Pro | Gln | Arg | Leu | Ala | Gly | Arg | Asp | Leu | Lys | Arg | Leu | Ala | Thr | Ser |
| | 290 | | | | | 295 | | | | | 300 | | | | |
| Asp | Leu | Glu | Gly | Cys | Ala | Val | Ala | Ser | Gly | Pro | Phe | Arg | Pro | Phe | Gln |
| | 305 | | | | | 310 | | | | | 315 | | | | 320 |
| Thr | Asn | Gln | Leu | Thr | Asp | Glu | Glu | Leu | Leu | Gly | Leu | Pro | Lys | Cys | Cys |
| | | | 325 | | | | | 330 | | | | | | 335 | |
| Gln | Pro | Asp | Ala | Ala | Asp | Lys | Ala | | | | | | | | |
| | | | 340 | | | | | | | | | | | | |

<210> 3

<211> 285

<212> PRT

<213> Homo sapiens

<400> 3

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Pro | Cys | Pro | Gly | Ala | Cys | Val | Cys | Tyr | Asn | Glu | Pro | Lys | Val | Thr | Thr |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Ser | Cys | Pro | Gln | Gln | Gly | Leu | Gln | Ala | Val | Pro | Val | Gly | Ile | Pro | Ala |
| | | | 20 | | | | | 25 | | | | | 30 | | |

Ala Ser Gln Arg Ile Phe Leu His Gly Asn Arg Ile Ser His Val Pro

| 35 | | | | | 40 | | | | | 45 | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Ala | Ala | Ser | Phe | Arg | Ala | Cys | Arg | Asn | Leu | Thr | Ile | Leu | Trp | Leu | His |
| 50 | | | | | 55 | | | | | 60 | | | | | |
| Ser | Asn | Val | Leu | Ala | Arg | Ile | Asp | Ala | Ala | Ala | Phe | Thr | Gly | Leu | Ala |
| 65 | | | | | 70 | | | | | 75 | | | | | 80 |
| Leu | Leu | Glu | Gln | Leu | Asp | Leu | Ser | Asp | Asn | Ala | Gln | Leu | Arg | Ser | Val |
| | | | | 85 | | | | | 90 | | | | | 95 | |
| Asp | Pro | Ala | Thr | Phe | His | Gly | Leu | Gly | Arg | Leu | His | Thr | Leu | His | Leu |
| | | | 100 | | | | | 105 | | | | | 110 | | |
| Asp | Arg | Cys | Gly | Leu | Gln | Glu | Leu | Gly | Pro | Gly | Leu | Phe | Arg | Gly | Leu |
| | | 115 | | | | | 120 | | | | | 125 | | | |
| Ala | Ala | Leu | Gln | Tyr | Leu | Tyr | Leu | Gln | Asp | Asn | Ala | Leu | Gln | Ala | Leu |
| | | 130 | | | | 135 | | | | | 140 | | | | |
| Pro | Asp | Asp | Thr | Phe | Arg | Asp | Leu | Gly | Asn | Leu | Thr | His | Leu | Phe | Leu |
| 145 | | | | | 150 | | | | | 155 | | | | | 160 |
| His | Gly | Asn | Arg | Ile | Ser | Ser | Val | Pro | Glu | Arg | Ala | Phe | Arg | Gly | Leu |
| | | | | 165 | | | | | 170 | | | | | 175 | |
| His | Ser | Leu | Asp | Arg | Leu | Leu | Leu | His | Gln | Asn | Arg | Val | Ala | His | Val |
| | | | 180 | | | | | 185 | | | | | 190 | | |
| His | Pro | His | Ala | Phe | Arg | Asp | Leu | Gly | Arg | Leu | Met | Thr | Leu | Tyr | Leu |
| | | 195 | | | | | 200 | | | | | 205 | | | |
| Phe | Ala | Asn | Asn | Leu | Ser | Ala | Leu | Pro | Thr | Glu | Ala | Leu | Ala | Pro | Leu |
| | | 210 | | | | 215 | | | | | 220 | | | | |
| Arg | Ala | Leu | Gln | Tyr | Leu | Arg | Leu | Asn | Asp | Asn | Pro | Trp | Val | Cys | Asp |
| 225 | | | | | 230 | | | | | 235 | | | | | 240 |
| Cys | Arg | Ala | Arg | Pro | Leu | Trp | Ala | Trp | Leu | Gln | Lys | Phe | Arg | Gly | Ser |
| | | | | 245 | | | | | 250 | | | | | 255 | |
| Ser | Ser | Glu | Val | Pro | Cys | Ser | Leu | Pro | Gln | Arg | Leu | Ala | Gly | Arg | Asp |
| | | | 260 | | | | | 265 | | | | | 270 | | |
| Leu | Lys | Arg | Leu | Ala | Ala | Asn | Asp | Leu | Gln | Gly | Cys | Ala | | | |
| | | 275 | | | | 280 | | | | | | 285 | | | |

<210> 4

<211> 319

<212> PRT

<213> Homo sapiens

<400> 4

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Pro | Cys | Pro | Gly | Ala | Cys | Val | Cys | Tyr | Asn | Glu | Pro | Lys | Val | Thr | Thr |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Ser | Cys | Pro | Gln | Gln | Gly | Leu | Gln | Ala | Val | Pro | Val | Gly | Ile | Pro | Ala |
| | | | 20 | | | | | 25 | | | | | 30 | | |

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Ala | Ser | Gln | Arg | Ile | Phe | Leu | His | Gly | Asn | Arg | Ile | Ser | His | Val | Pro |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|

| 35 | | | | | 40 | | | | | 45 | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|
| Ala | Ala | Ser | Phe | Arg | Ala | Cys | Arg | Asn | Leu | Thr | Ile | Leu | Trp | Leu | His | |
| 50 | | | | | 55 | | | | | 60 | | | | | | |
| Ser | Asn | Val | Leu | Ala | Arg | Ile | Asp | Ala | Ala | Ala | Phe | Thr | Gly | Leu | Ala | |
| 65 | | | | | 70 | | | | | 75 | | | | | 80 | |
| Leu | Leu | Glu | Gln | Leu | Asp | Leu | Ser | Asp | Asn | Ala | Gln | Leu | Arg | Ser | Val | |
| 85 | | | | | 90 | | | | | 95 | | | | | | |
| Asp | Pro | Ala | Thr | Phe | His | Gly | Leu | Gly | Arg | Leu | His | Thr | Leu | His | Leu | |
| 100 | | | | | 105 | | | | | 110 | | | | | | |
| Asp | Arg | Cys | Gly | Leu | Gln | Glu | Leu | Gly | Pro | Gly | Leu | Phe | Arg | Gly | Leu | |
| 115 | | | | | 120 | | | | | 125 | | | | | | |
| Ala | Ala | Leu | Gln | Tyr | Leu | Tyr | Leu | Gln | Asp | Asn | Ala | Leu | Gln | Ala | Leu | |
| 130 | | | | | 135 | | | | | 140 | | | | | | |
| Pro | Asp | Asp | Thr | Phe | Arg | Asp | Leu | Gly | Asn | Leu | Thr | His | Leu | Phe | Leu | |
| 145 | | | | | 150 | | | | | 155 | | | | | 160 | |
| His | Gly | Asn | Arg | Ile | Ser | Ser | Val | Pro | Glu | Arg | Ala | Phe | Arg | Gly | Leu | |
| 165 | | | | | 170 | | | | | 175 | | | | | | |
| His | Ser | Leu | Asp | Arg | Leu | Leu | Leu | His | Gln | Asn | Arg | Val | Ala | His | Val | |
| 180 | | | | | 185 | | | | | 190 | | | | | | |
| His | Pro | His | Ala | Phe | Arg | Asp | Leu | Gly | Arg | Leu | Met | Thr | Leu | Tyr | Leu | |
| 195 | | | | | 200 | | | | | 205 | | | | | | |
| Phe | Ala | Asn | Asn | Leu | Ser | Ala | Leu | Pro | Thr | Glu | Ala | Leu | Ala | Pro | Leu | |
| 210 | | | | | 215 | | | | | 220 | | | | | | |
| Arg | Ala | Leu | Gln | Tyr | Leu | Arg | Leu | Asn | Asp | Asn | Pro | Trp | Val | Cys | Asp | |
| 225 | | | | | 230 | | | | | 235 | | | | | 240 | |
| Cys | Arg | Ala | Arg | Pro | Leu | Trp | Ala | Trp | Leu | Gln | Lys | Phe | Arg | Gly | Ser | |
| 245 | | | | | 250 | | | | | 255 | | | | | | |
| Ser | Ser | Glu | Val | Pro | Cys | Ser | Leu | Pro | Gln | Arg | Leu | Ala | Gly | Arg | Asp | |
| 260 | | | | | 265 | | | | | 270 | | | | | | |
| Leu | Lys | Arg | Leu | Ala | Ala | Asn | Asp | Leu | Gln | Gly | Cys | Ala | Val | Ala | Thr | |
| 275 | | | | | 280 | | | | | 285 | | | | | | |
| Gly | Pro | Tyr | His | Pro | Ile | Trp | Thr | Gly | Arg | Ala | Thr | Asp | Glu | Glu | Pro | |
| 290 | | | | | 295 | | | | | 300 | | | | | | |
| Leu | Gly | Leu | Pro | Lys | Cys | Cys | Gln | Pro | Asp | Ala | Ala | Asp | Lys | Ala | | |
| 305 | | | | | 310 | | | | | 315 | | | | | | |

<210> 5

<211> 284

<212> PRT

<213> Rattus norvegicus

<400> 5

Cys Pro Gly Ala Cys Val Cys Tyr Asn Glu Pro Lys Val Thr Thr Ser

| 1 | 5 | 10 | 15 |
|---|-----|-----|-----|
| Arg Pro Gln Gln Gly Leu Gln Ala Val Pro Ala Gly Ile Pro Ala Ser | 20 | 25 | 30 |
| Ser Gln Arg Ile Phe Leu His Gly Asn Arg Ile Ser Tyr Val Pro Ala | 35 | 40 | 45 |
| Ala Ser Phe Gln Ser Cys Arg Asn Leu Thr Ile Leu Trp Leu His Ser | 50 | 55 | 60 |
| Asn Ala Leu Ala Gly Ile Asp Ala Ala Ala Phe Thr Gly Leu Thr Leu | 65 | 70 | 75 |
| Leu Glu Gln Leu Asp Leu Ser Asp Asn Ala Gln Leu Arg Val Val Asp | 85 | 90 | 95 |
| Pro Thr Thr Phe Arg Gly Leu Gly His Leu His Thr Leu His Leu Asp | 100 | 105 | 110 |
| Arg Cys Gly Leu Gln Glu Leu Gly Pro Gly Leu Phe Arg Gly Leu Ala | 115 | 120 | 125 |
| Ala Leu Gln Tyr Leu Tyr Leu Gln Asp Asn Asn Leu Gln Ala Leu Pro | 130 | 135 | 140 |
| Asp Asn Thr Phe Arg Asp Leu Gly Asn Leu Thr His Leu Phe Leu His | 145 | 150 | 155 |
| Gly Asn Arg Ile Pro Ser Val Pro Glu His Ala Phe Arg Gly Leu His | 165 | 170 | 175 |
| Ser Leu Asp Arg Leu Leu Leu His Gln Asn His Val Ala Arg Val His | 180 | 185 | 190 |
| Pro His Ala Phe Arg Asp Leu Gly Arg Leu Met Thr Leu Tyr Leu Phe | 195 | 200 | 205 |
| Ala Asn Asn Leu Ser Met Leu Pro Ala Glu Val Leu Val Pro Leu Arg | 210 | 215 | 220 |
| Ser Leu Gln Tyr Leu Arg Leu Asn Asp Asn Pro Trp Val Cys Asp Cys | 225 | 230 | 235 |
| Arg Ala Arg Pro Leu Trp Ala Trp Leu Gln Lys Phe Arg Gly Ser Ser | 245 | 250 | 255 |
| Ser Gly Val Pro Ser Asn Leu Pro Gln Arg Leu Ala Gly Arg Asp Leu | 260 | 265 | 270 |
| Lys Arg Leu Ala Thr Ser Asp Leu Glu Gly Cys Ala | 275 | 280 | |

<210> 6

<211> 318

<212> PRT

<213> Rattus norvegicus

<400> 6

Cys Pro Gly Ala Cys Val Cys Tyr Asn Glu Pro Lys Val Thr Thr Ser

| | | | |
|---|-----|-----|-----|
| 1 | 5 | 10 | 15 |
| Arg Pro Gln Gln Gly Leu Gln Ala Val Pro Ala Gly Ile Pro Ala Ser | 20 | 25 | 30 |
| Ser Gln Arg Ile Phe Leu His Gly Asn Arg Ile Ser Tyr Val Pro Ala | 35 | 40 | 45 |
| Ala Ser Phe Gln Ser Cys Arg Asn Leu Thr Ile Leu Trp Leu His Ser | 50 | 55 | 60 |
| Asn Ala Leu Ala Gly Ile Asp Ala Ala Ala Phe Thr Gly Leu Thr Leu | 65 | 70 | 75 |
| Leu Glu Gln Leu Asp Leu Ser Asp Asn Ala Gln Leu Arg Val Val Asp | 85 | 90 | 95 |
| Pro Thr Thr Phe Arg Gly Leu Gly His Leu His Thr Leu His Leu Asp | 100 | 105 | 110 |
| Arg Cys Gly Leu Gln Glu Leu Gly Pro Gly Leu Phe Arg Gly Leu Ala | 115 | 120 | 125 |
| Ala Leu Gln Tyr Leu Tyr Leu Gln Asp Asn Asn Leu Gln Ala Leu Pro | 130 | 135 | 140 |
| Asp Asn Thr Phe Arg Asp Leu Gly Asn Leu Thr His Leu Phe Leu His | 145 | 150 | 155 |
| Gly Asn Arg Ile Pro Ser Val Pro Glu His Ala Phe Arg Gly Leu His | 165 | 170 | 175 |
| Ser Leu Asp Arg Leu Leu Leu His Gln Asn His Val Ala Arg Val His | 180 | 185 | 190 |
| Pro His Ala Phe Arg Asp Leu Gly Arg Leu Met Thr Leu Tyr Leu Phe | 195 | 200 | 205 |
| Ala Asn Asn Leu Ser Met Leu Pro Ala Glu Val Leu Val Pro Leu Arg | 210 | 215 | 220 |
| Ser Leu Gln Tyr Leu Arg Leu Asn Asp Asn Pro Trp Val Cys Asp Cys | 225 | 230 | 235 |
| Arg Ala Arg Pro Leu Trp Ala Trp Leu Gln Lys Phe Arg Gly Ser Ser | 245 | 250 | 255 |
| Ser Gly Val Pro Ser Asn Leu Pro Gln Arg Leu Ala Gly Arg Asp Leu | 260 | 265 | 270 |
| Lys Arg Leu Ala Thr Ser Asp Leu Glu Gly Cys Ala Val Ala Ser Gly | 275 | 280 | 285 |
| Pro Phe Arg Pro Phe Gln Thr Asn Gln Leu Thr Asp Glu Glu Leu Leu | 290 | 295 | 300 |
| Gly Leu Pro Lys Cys Cys Gln Pro Asp Ala Ala Asp Lys Ala | 305 | 310 | 315 |

<211> 22
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic
 peptide

<400> 7
 Ala Ala Ala Phe Thr Gly Leu Thr Leu Leu Glu Gln Leu Asp Leu Ser Asp
 1 5 10 15
 Asn Ala Gln Leu Arg
 20

<210> 8
 <211> 10
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic
 peptide

<400> 8
 Leu Asp Leu Ser Asp Asn Ala Gln Leu Arg
 1 5 10

<210> 9
 <211> 10
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic
 peptide

<400> 9
 Leu Asp Leu Ser Asp Asp Ala Glu Leu Arg
 1 5 10

<210> 10
 <211> 11
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic
 peptide

<400> 10
 Leu Asp Leu Ala Ser Asp Asn Ala Gln Leu Arg
 1 5 10

<210> 11
 <211> 11
 <212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic peptide

<400> 11

Leu Asp Leu Ala Ser Asp Asp Ala Glu Leu Arg
1 5 10

<210> 12

<211> 11

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic peptide

<400> 12

Leu Asp Ala Leu Ser Asp Asn Ala Gln Leu Arg
1 5 10

<210> 13

<211> 11

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic peptide

<400> 13

Leu Asp Ala Leu Ser Asp Asp Ala Glu Leu Arg
1 5 10

<210> 14

<211> 11

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic peptide

<400> 14

Leu Asp Leu Ser Ser Asp Asn Ala Gln Leu Arg
1 5 10

<210> 15

<211> 11

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic peptide

<400> 15

Leu Asp Leu Ser Ser Asp Glu Ala Glu Leu Arg
1 5 10

<210> 16

<211> 12

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
peptide

<400> 16

Asp Asn Ala Gln Leu Arg Val Val Asp Pro Thr Thr
1 5 10

<210> 17

<211> 6

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
peptide

<400> 17

Asp Asn Ala Gln Leu Arg
1 5

<210> 18

<211> 16

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
peptide

<400> 18

Ala Asp Leu Ser Asp Asn Ala Gln Leu Arg Val Val Asp Pro Thr Thr
1 5 10 15

<210> 19

<211> 16

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
peptide

<400> 19

Leu Ala Leu Ser Asp Asn Ala Gln Leu Arg Val Val Asp Pro Thr Thr
1 5 10 15

<210> 20
 <211> 16
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic
 peptide

<400> 20
 Leu Asp Leu Ser Asp Asn Ala Ala Leu Arg Val Val Asp Pro Thr Thr
 1 5 10 15

<210> 21
 <211> 16
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic
 peptide

<400> 21
 Leu Asp Leu Ser Asp Asn Ala Gln Leu His Val Val Asp Pro Thr Thr
 1 5 10 15

<210> 22
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